

# Design ambitions and logics in construction – a performative approach

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## Abstract

Skyscrapers are often often seen as powerful symbols and important symbols of power; views which generally render the skyscraper as nothing more than a passive object representing people's design ambitions. Rather than continue in this representational vein, the paper develops a performative approach emphasizing the role of materiality in constructing design ambitions. Based on a case study of the construction of a skyscraper in Sweden, "The Turning Torso", we show how personal and collective design ambitions are transformed and even scaled up and down as the materialization of the building poses new and unexpected design requirements. We trace how an object of art, "The twisting Torso" – as depicted in sculptures, drawings and pictures – morphs, circulates in the hands of others, and participates in the construction of not only architectural design ambitions and the skyscraper, "The Turning Torso," but also in the construction of a design strategy for urban and regional renewal/identity. Articulating and representing the future in the present and by persuading others to act accordingly "The Twisting Torso" is considered as a device active in folding time, space, ambitions and identities, whilst "The Turning Torso" in the course of its construction not only shaped design ambitions, it also – de facto – shaped important cultural understandings and practices concerning living standards, citizenship, professional roles and identity, i.e. the project's institutional context and logics.

## Introduction

How do design ambitions emerge? The literature is replete with references to how important the architect's ambition is for a building's design and scope, and as such ambitions reside in the heads of architects. In organizational research architecture is – like other artefacts and technology – generally treated as a *symbol* (Schein 1992) of an already given culture and as a means to reinforce its identity (Scott and Meyer et al. 1994, Meyer et al. 1994). Hence, architectural ambitions are likely to be influenced by forces in the wider institutional environment of which the architect is part. However, notions like *symbol* and *means* tend to treat architecture, technologies and artefacts as passive objects that reflect ambitions existing elsewhere else, i.e. in the minds of architects, in a specific profession and/or cultural context. The artefacts, technologies and architecture are either overlooked or not considered as making any constitutive difference. As an alternative to these strands of organizational research, we develop a performative approach and argue that design ambitions are emergent and depend upon the building under construction.

The purpose of this paper is to explore in what sense architecture, artefacts and technologies can actively participate in organizing and changing existing ambitions, practices, and cultural understandings. The paper develops an endogenous understanding of cultural and institutional change in which objects and their cultural context are seen as mutually constituted or co-produced. Rather than considering action as shaped or influenced by 'forces' exogenous to the actor and the objects that actors use merely as means to an end, we reverse this 'outside-in' argumentation and with the help of actor network theory develop an 'inside-out' argument that sheds light on how material objects – like buildings and some of the artefacts/technologies needed to construct buildings – can create, transmit and change institutions. Our aim is to contribute to a process-based approach to understanding how 'things' – like buildings and ambitions – come into being, i.e. are connected, stabilized and perhaps even institutionalized (Czarniawska & Hernes 2005, Kreiner and Løth Fredriksen 2007, Bekke Kjær and Mourtisen 2007, Hernes 2008, Czarniawska 2009).

The rest of the paper and argument is organized as follows. The next section presents our theoretical approach and positions our argument in relation new institutional theory(NIT). The section that follows accounts for our case based methodology. The section on 'The Turning Torso case' focuses on some critical moments during the construction project, i.e., moments that reveal the values at stake, how they are negotiated and how they are eventually transformed and stabilized. The final section contains a discussion of our findings and concludes the argument.

### **Theoretical approach**

Theoretically our argument is grounded in actor network theory (ANT), which emphasizes relational materiality and performativity; i.e. that things are what they are qua their relations to other things and people, and they are performed through those relations. ANT is – like much of organizational theory – preoccupied with understanding the “social” and how social processes stabilize, but unlike much organizational research the “social” is not predetermined by the analyst. It is seen as ‘something’ that is assembled through the “associations” of things and people (Latour 2005). As Czarniawska (2009:156) notes: “...the world is not created (from nothing) but constructed or assembled from what already exists.” Stability is an effect of the associations or assemblages – it is an achievement that more often than not is precarious.

Within organizational studies, institutions and institutionalization processes have long been the domain of institutional theory. Although institutional theory and actor network theory hardly can be said to be in the same family of theories ontologically, epistemologically or methodologically, these two perspectives do have some ‘semblance’ in terms of overarching research theme; both focus – albeit in different ways – on institutionalization processes. The recent move within institutional theory emphasizing change rather than stability and isomorphism; agency and strategic action; and the importance of mobilizing resources, controversies and contestation (see e.g. Hardy & Maguire 2008, Hoffman 2008) has added to this ‘semblance’. These developments notwithstanding, there is, however, a tendency in this literature as in much other organizational research in general to overlook the materiality and the role of objects in these processes. There is, as pointed out by Joerges & Czarniawska (1998) and Holm (2001), something(s) missing in the analysis. ANT, however, specifically directs attention to the role of material objects in stabilizing –

or perhaps even institutionalizing, at least temporarily – organizational processes, but it does so in a way that is different from much organizational research, because the material is not just considered as a means to an end. The material is granted a performative role; one of ‘doing things’ rather than just acting as an intermediary, a go-between between human actors. All entities – human and non-human – achieve their form/qualities qua their relations with other entities. Following from this, design ambitions are performed and emerge through the construction process.

Latour (2002) addresses the relation between means and ends, and argues that by changing the means the end can change as well. Latour exemplifies this argument with reference to a common object used in construction, i.e., a hammer: A hammer is not confined to having a passive role as a means to an end, as in a rationalized “means-end relationships” (Scott and Meyer et al. 1994: 3). Rather when inserted in the hand, the hammer affords – in a Gibsonian (1986) sense of holding both permission and promise – of different ends. The Gibsonian notion of affordance introduces plasticity to objects – as affording not only different possible ends but also their simultaneous exploration and transformation. One important point following from this line of reasoning is that artefacts, technology and even the materiality of skyscraper can be regarded as mediators, i.e. as entities actively involved in transforming, translating, modifying or even distorting the meaning that they are supposed to carry. They can transform not only ends and ambitions, but actors’ identities, and more generally, institutions such as culture, rules and taken for granted assumptions. Another important and related point concerns the notions of time and space. When the hand grabs the hammer, the hand is inserted in a “garland of time,” because the hammer is an end product in a long, complex chain of events – in a history of technical development and innovation involving old slow growing oak trees in Ardennes, mines of the Ruhr, a German factory, a tool van on Bourbonnais streets on a Wednesday and a clumsy Sunday bricoleur user (Latour 2002, p. 249 referring to Michel Serres, 1995). This heterogeneity of temporalities and spaces are folded, i.e. simultaneously linked together, as the hand grabs the hammer. In brief, actor-network theory (ANT) offers an analytical tool that allows us to consider the possibility of a reversal of means-end relationships and roles by considering material objects as actively involved in transforming the context in which they are put to use. Our proposition and argument is, then,

that technical action – as in the construction of the “Turning Torso” – can fold time, space and actors’ ambitions and identities.

Like new institutional theory (NIT), ANT is also about institutions and stability and the challenge is to explain how stable states are achieved. Table 1 below provides a summary of the main similarities (and differences) between the two perspectives.

- Table 1 -

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Although NIT research has been accused of downplaying the role of actors and agency in their accounts of what constrain and produces (institutional) stability, there are important, early contributions that points in another direction: "This emphasis [on institutional reproduction] has highlighted the constraints imposed by institutions and stressed the ubiquity of rules that guide behavior. But institutions are not only constraints on human agency; they *are first and foremost products of human actions.*" (DiMaggio and Powell 1991:28, emphasis added). Moreover, the recent resurgence of interest in the role of institutional entrepreneurs (Suddaby and Greenwood 2005, Maguire, Hardy, and Lawrence 2004) stress the importance of agency. There is, however, one notable difference between these versions of NIT analysis and ANT, and that is the emphasis given to the symbolic (representational) and the manipulation of social relationships. In as much as the material figures it is either as a resource of which the institutional entrepreneur (IE) wishes to gain control or as a medium through which the IE can exercise control. ANT, however, allows one to attend to the artefacts, technologies and other technical devices in order to account for the actions that produce the institutional constraints.

In describing these similarities and differences between NIT and ANT, we have emphasizes some of the core elements, but there are, of course, more refined elements to add, like the notion of ‘institutional logics’ (Friedland and Alford 1991, Thornton and Ocasio 1999). As far as we know, there is no equivalent to this notion in ANT. Nevertheless, this notion, we posit, opens up for a possible point of convergence between the two approaches. According to Friedland and Alford(1991) “Not only change[...] but the stability of interests must also be explained” (pp.244-

245). Hence, the authors call for a new theory of institutions that is capable of explaining how interests are stabilized. The concept of institutional logics provides for this explanation, because all the important institutional orders of Western societies are constituted by them; the truth-logic of religion and science, the bureaucratic rationalization-logic of the state, the accumulation-logic of capitalism, the loyalty logic of family, the professional logic of professions, and so on. Later work by Thornton and Ocasio (1999) has refined the theoretical strand on institutional logics by adding two more ideal types; a professional-editorial logic and a market logic and the authors examine the shift/replacement from the former to the latter across US educational publishing industry and the effects of the shift on executive attention and succession. Interestingly in the context of our work, the authors contrast the “quasi-professional” editorial logic with autonomous “pure professional”, such as that found in architectural firms (Thornton and Ocasio 1999: 816).<sup>1</sup> Yet these logics are also “technically and materially constrained” (Friedland and Alford 1991: 249). Although the authors direct explicit attention to the constraining role of technical-material things they do not ‘unpack’ how these practices/logics are institutionalized. This is just assumed to be the case.

The authors are also making a strong case for an undue dualistic emphasis in NIT on the more symbolic-idealist aspects of the constraining institutions and call for more specificity in NIT concerning the institutional constraints. Again, the only or main issue that separates this account and call from one informed by ANT would be a further elaboration of additional possible roles for the technical and material devices. Simply put, the main and open empirical question we would like to add is, what other roles – in addition to the constraining role, can there be for the technical devices? More specifically, we ask if the technical devices can be more actively involved in shaping the logics and thus negotiate the institutional boundaries and constraints.

## **Methodology**

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<sup>1</sup> The concept and importance of an autonomous pure profession is well established in NIT, e.g. “The rationalizing frameworks giving rise to and shaping organizational fields are, in the modern world, constructed primarily by the professions and agents of the state” (Scott 1994:71).

Empirically, the paper draws upon a case study of the construction of the “Turning Torso” in Malmö, Sweden, which is presently one of the highest residential buildings in Europe. It is also a new landmark in the Öresund region. It was commissioned and built by the Malmö branch of the cooperative housing association, HSB-Malmö<sup>2</sup>. Construction started early 2001 and was completed in early 2006. Data collection was based on in situ visits, document studies and interviews. It started late in 2004 and ended (provisionally) in early 2006. The in situ visits allowed for viewing how construction progressed, whereas the documentary data and the interviews allowed for tracing the devices and the people active in the construction process. The documentary data included public city plans, consultancy reports, memos, decision protocols, architectural drawings, pictures, movies, press releases, and articles from magazines and the local newspapers. Interviews were conducted with the head of project management, project marketing, architects, quality consultants, the head and members of the city’s planning, representatives from the owner/client organization, including the former and current CEO and the head of building maintenance and service. All of these interviews have been recorded and transcribed.

The method of analysis is a reconstruction of the chain of related events that lead up to the materialization of The Turning Torso. This involved a systematic reading of the data to develop time lines, identify controversies, identify artefacts with a significant role in the chain of events and to follow the chain of associations connecting the key decision-makers with these artefacts, e.g. the architect/engineer’s sketch and a model of a twisting torso, multiple versions of the budget, laboratory simulations, and the emergent building. Latour (1987) has summarized this method in a rule of thumb as “following” the actor or the chain of associations. It has the analytical advantage of encouraging the analyst to trace connections across particular localities, while reducing the propensity to take the relevance of a particular organizational locality for granted. For pragmatic reasons (due to timing of the study), we have unfortunately not been able to conduct in situ observations of the bench work within the ‘laboratory’ of the architect office (Yaneva 2005). Instead we relied on documentation and verbal accounts of how architectural prototypes and drawings have circulated and linked up with such diverse localities and temporalities as a construction site in Malmö city and New York’s Museum of Modern Art, MoMA.

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<sup>2</sup> HSB is the acronym for Hyresgästernes Sparkasse och Byggnadsförening (literal translation: Hired guests Savings bank and Construction Association) that has 33 regional offices across Sweden.

The empirical analysis focuses on a number of events or episodes to show: how a drawing of a twisting torso, a circulating reference, evolves into an architectural design in a first step of making the building knowable and real (Yaneva 2005); how the design ambitions are changed by budgetary concerns, laboratory simulations models, and by considering user needs; how budgetary concerns are at a later stage in the construction process, then, dwarfed by design ambitions; and how the skyscraper becomes a new landmark and symbol that works to transform the identity of Malmö city. Our findings show how an object, The Twisting Torso multiplies – as it is elaborated in sculptures, drawings and pictures – circulates in the hands of others and participates in the construction of not only architectural design ambitions and a skyscraper but also in the construction of a design strategy for urban and regional renewal/identity. Articulating and representing the future in the present, and by persuading others to act accordingly the twisting torso is considered a time-folding device.

In a recent study of architectural design, Yaneva (2005) draws on actor network theory in an ethnographic study of how various scale models are actively involved in architects' strivings to make the building knowable and real; a process she has termed 'scaling up and down'. While Yaneva focuses on the circulation of models within the architect office, our study focuses, complementary to this, on how a model transgresses the walls of the architect's office and 'hooks up' with prospective clients, city planners, ordinary citizens and prospective users of the building, all outside the architect's office, thus, extending the laboratory from the office of an architect to a city (Czarniawska 2002). Rather than assuming the building to be a faithful expression of already given design ambitions, this approach suggests that buildings and other technical devices might participate in more active and unexpected ways in the construction and distribution of design ambitions. It is in this recursive and explorative sense that the present paper aims to make a contribution to organizational research.

By drawing upon actor network theory to focus on what 'things' such as drawings, prototypes, budgets, and a building can do in a construction process we demonstrate that design ambitions are emergent, contingent and dynamic, rather than a reflection of ambitions residing elsewhere, in the wider environment. In this sense the approach taken allows for greater sensitivity and understanding of the processes by which ambitions – and by extension goals, norms, logics– come



into existence. They are seen as an effect rather than taken as a premise; a move that opens organizational research to the complexity and non-linearity of organizing not just in construction projects but all kinds of projects that like “The Turning Torso” take many unexpected twists and turns. While many researchers informed by actor network theory have moved beyond the study of scientists/engineers in their laboratories to study other sites and professions, e.g. the offices of architects (Yaneva 2005), our study trespasses such formal boundaries and attends to the complex web of organizing across organizational sites and professions.

### **The Turning Torso case**

Design ambitions that are not yet articulated or expressed in some material form like a drawing are usually considered to be dreams in the head of designers, but how are such ideas transformed into buildings? What are the design logics at work? And what happens when design ambitions and logics meet financial ambitions and an economic logic during the design and construction process? In what follows, we will account more specifically for the role that the progressively elaborated and circulating objects have for realizing such ambitions and logics, and for keeping them in place.

#### *First moment: Articulating a design ambition – constructing a design logic*

Our study has two starting points: one in Switzerland and one in Malmö, Sweden. Taking the Swiss connection first, this part of the story starts with a sculpture called “Twisting Torso”, conceived of by the Spanish architect and engineer Santiago Calatrava. Calatrava, known for his interest in organic form and movement, had made a sculpture in 1985 consisting of 9 cubes (see figure 1), which he had at his home: “...They describe the spine, or how our body stands up. The spine is made up of vertebrae that are *represented* in the sculptures in a very elemental way, as a series of cubes... Also quite important is how our spine twists, how it turns around an axis, and how it bends and reaches” (Calatrava 1997/ 2002: 95. MIT lectures. Emphasis added).

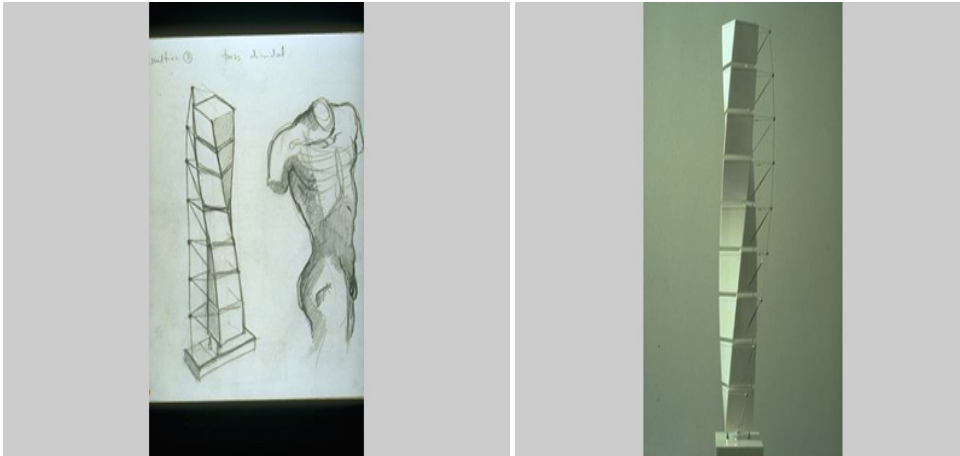


Figure 1. Right picture: Nine-cube sculpture study named “Twisting Torso I” from 1985. Left picture: Seven-cube drawing study named “Turning Torso” from 1999, illustrating Calatrava’s analogy to the body. (Sources: Calatrava, 1997/2002; Kiser, 2004; Levin, 2003)

For many years the “Twisting Torso” continued its quiet existence as a piece of art in a private collection until the sculpture was put into circulation by Calatrava, and it made it to the second starting point of our case – Malmö, Sweden.

The city of Malmö was in late 1990s in a period of transition. Local government was greatly interested in revitalising the western harbour that, once the site of thriving shipyards, had lain desolate as an urban wasteland for more than a decade. Creating new housing had a key role to play in making this urban transition, and they planned to open a housing exhibition, “Living 00” [Bo 00] in 2000 in a small town just south of Malmø. Only, the construction industry wasn’t interested in developing this (relatively) marginal location, and the housing expo was re-located in Malmö’s western harbour in May 2001 and re-named “Living 01 – City of Tomorrow” [Bo 01]. With this exhibition they wanted to demonstrate “that the industrial wasteland could be transformed into the center of the world”; a green sustainable city of the future (Homepage Bo 01, <http://home.att.net/~amcnet/bo01.html>, emphasis added), and the skyscraper “The Turning Torso,” inspired by the sculpture, was to figure prominently in realizing this ambition. As the head of city planning explained: “The [shipyard’s] crane was destined to be sold and sent away. The city’s landmark was to be replaced by a new one, representing the transformation from an industrial city to the new area – Malmö, the city of knowledge and events...”

The way in which Calatrava's design idea made it to the expo "Living 01" is by way of the "Living 00" exhibition. Calatrava had exhibited his model of the "Twisting Torso" at this exhibition, and it was the architect responsible for organizing "Living 00" who brought Calatrava's work to the attention of Malmö's head of city planning in 1999. Up until then, the city had not yet developed detailed plans for the "Living 01" expo apart from designating that the site would contain a fairly tall building – 25 stories, a maximum height of 77 meters – that would 'fit' into the otherwise relatively low-rise city-scape. They did not have a prospective owner or constructor of the building, nor had they decided on the purpose or design of the building. It was – on all counts relative to what was to become "The Turning Torso" – an unambitious construction project. Once the head of city planning had seen the model, he decided to visit Calatrava.

However, the city was not the only organisation planning on constructing a high-rise. The CEO of the housing association HSB-Malmö was also considering constructing a 75 meter high building, and while visiting the city planning office in spring 1999, the CEO came across an exhibition folder displaying a picture of a seven-cube version of "The Twisting Torso" sculpture: "I was heading for a different meeting with some architects at the office for city planning. There were some brochures scattered around that Calatrava had left behind and [in the brochure] there was this sculpture Twisting Torso. At that time, it was seven cubes high, because this is the way architecture divide the human body...." and "...having seen the sculpture, I contacted the general management of the housing exhibition ["Living 01" in Malmö] in order establish contact with Calatrava". This marked the start of a series of meetings between the CEO, Calatrava and Malmö's city planners.

First, Calatrava had to be convinced that the western harbour would be an appropriate site for a building designed by him. His initial free hand sketches of the building resembled a cobra, but as the CEO further explained "I was not very interested [in the cobra] and succeeded in persuading him to consider doing something else for us...", but this was after Calatrava had visited Malmö and seen with his own eyes that a high rise building could, indeed, 'fit' on/with this particular site. As the CEO explained: "He [Calatrava] accepted it and started to make drawings", eventhough it had taken the CEO, representing the prospective project owner and constructor, quite a while to persuade the artist and architect that his small sculpture, "The Twisting Torso" was *both* a piece of art and a good prototype for a residential building. It became part of the project's ambition, to

create a hybrid, mixing art and architecture in a new innovative way, and they coined the concept of *'living art'* to summarize this design ambition. The city's master plan – an important legal-political document and institution – was adjusted accordingly so as to 'fit' "The Turning Torso". The plan had originally operated with a 77 metres height constraint corresponding to the highest building in the city, but this constraint was subsequently adjusted by the city planners so as to allow for a maximum height of 211 metres.

As suggested, the ambition and building concept is a (provisional) outcome from a process of progressive elaboration and circulation of sculptures, models and drawings. As will be further shown below, the concept in turn provides the conceptual referent for an emerging design logic.<sup>3</sup> The initial plan had been to construct a building consisting of 7 cubes. However, as the CEO and architects interacted with this model while putting themselves in the place of the user, they discovered that the dimensions of the cubes would mean that the angles of the windows and walls would be skewed. As the CEO explained: "When we made the first models we believed that seven cubes and 133 metres would be sufficient, but it turned out that it would be very difficult to absorb the sharp angles of windows resulting from the [building's] 90 degrees twist." The design logic that governs this exploration of design is, in turn, governed by the design ambition and concept. By increasing the number of cubes and the height of the building, the sharp angles could be reduced, and for the prospective end-user this was considered to be quite an improvement, because "the sensation of living in the Turning Torso would become less of a challenge, if the angles of windows and walls approached the ordinary 90 degrees standard". Design standards and norms are both an input as well as an output from this progressive elaboration of models and design. Through subsequent interactions and negotiations two more cubes were added. With the revised and enlarged nine cube solution, the kinetic qualities of the sculpture could still be preserved while simultaneously taking prospective user needs into account.

When Calatrava entered the HSB board room a few months later, in February 2000, the architect was well equipped. He brought with him sketches and drawings that convinced the board members to continue exploring the feasibility of the project. The name 'Turning Torso' emerged in

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<sup>3</sup> A logic without a conceptual referent is tautological (empty), and this is also why we seek to first account for how the reflexive actors were able to formulate their innovative design concept and ambition, before we proceed with an analysis of the logics' institutional (and more or less hybrid) composition.

the wake of that meeting. As the CEO explained, “the name [Turning Torso] seemed natural”. Naming is an important aspect of constituting individuals’ identity, both for humans and objects and what we see in this case is how a particular and Anglo-Saxon (as the name indicates) identity is accomplished and constituted provisionally through the progressive elaboration of the technical devices. However, the concept of ‘living art’ also proposes a particular identity to the building’s prospective inhabitants. It is not the inhabitant seeking an ordinary and affordable apartment that is inscribed into the design concept. As further elaborated in the marketing material, the inhabitant is an owner (as opposed to a tenant of a municipal housing cooperative), who is a rich, successful entrepreneur and cosmopolitan. As it turned out later: “It is mainly wealthy Swedes, international businessmen, celebrities and Corporations who have taken an interest in the apartments” (Press release September 12, 2003). The inhabitant identity that in subsequent steps - and due to the elaboration and circulation of marketing materials - are inscribed into the design concept, came to resemble what Koolhaas (1996) termed the *kinetic elite*.

While the progressive elaboration and use of prototypes, simulation models, mock-ups, sketches and drawings are commonplace tools to inform design decisions, we can also see how they circulate and connect distant organizational sites while trespassing professional boundaries and in turn, actively participating in shaping largely undefined design ambitions, identities, interest, attention and commitment among architects, the prospective clients – the HSB association, the city planners and the management of the housing exhibition, and the prospective inhabitants. To summarize, a new standard of living and identity emerges with a particular design concept, “living art,” and design logic through a process of circulating and multiplying the object “twisting torso” – mixing the twin institutions of art and architecture in a new innovative way.

The next episode accounts for the dynamic interplay between the emerging design ambition and logic and the project’s emerging financial ambition. We will focus on one particular instance in which the design ambition and associated logic came to be further refined and stabilized (provisionally) through interaction with the construction budget and its management. As we will show, the circulation and use of such tools and technical devices, each in their own way, both shape and resolve the emergent tensions between a design logic and an economic logic that is linked to the budget.

*Second moment: Articulating a financial ambition – constructing an economic logic and negotiating the design logic.*

By mid 2000 HSB had yet to decide whether or not they would build this 9 cube-building. Based on Calatrava's revised drawings, the cost of constructing a building with 14.797m<sup>2</sup> for apartments and offices was estimated to be approximately 550 million SEK. The drawings and cost estimations were presented to HSB's Board in early autumn 2000, and subject intense debate for the rest of the year. Although production costs had initially been Board's prime concern, over the course of their meetings they became increasingly interested in the potential revenue that the project could generate. This had not previously been a concern, but with the production costs being made visible in the budget, this directed the HSB board members' attention to the (potential) revenues that they felt were missing in the calculations. As project management begins revising the budget so as to accommodate this concern, new distinctions are made between what can be considered as commercial, non-commercial and technical areas, leading to further calculations of the potential revenues. The prospect of additional revenue leads to a redesign of the building,<sup>4</sup> adding another 178 million SEK to the 550 million SEK cost budget. The revised budget actively promoted the economic realism and rationale of a more favourable cost/benefit ratio that afforded HSB the possibility of approving the project and the revised budget of 728 million SEK in December 2000.

Although one could contend that this is just an illustration of how management seeks to maximize the cost/benefit ratio by negotiating a higher revenue potential, this would gloss over the complex interplay and co-dependent relation between construction re-design and budgetary revisions. First, as a (calculative) device the budget helped management to provide for a rationalized calculation of the cost/benefit ratio, i.e., this particular economic logic is not independent of the budget-device but integral to the budget-device and its progressive elaboration. However, the budget-device cannot sufficient provide all the information that is needed for this refined cost/benefit calculation. Drawings are also required, because without them management cannot see, nor calculate how much "commercial space" there is, and thus how much more was required. According to project management, even after redesigning and enlarging the commercial area,

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<sup>4</sup> The commercial area was increased from the originally planned 14.797m<sup>2</sup> to 17.723m<sup>2</sup>.

“The Turning Torso” was far below the norm for skyscraper design because the commercial area was relatively small compared to the technical, (non)commercial area. This distinction between technical and commercial area is, however, also highly suggestive in terms of the theoretical ramifications since it speaks directly to at least three important, recurring distinctions within NIT: (1) Institutional and technical environments are separate, (2) the technical environment is subsumed and constrained by institutional(norms), and (3) the institutional logics are rooted in material practices (Scott, 1994, Friedland and Alford 1991 , Thornton and Ocasio 1999). However, our case suggests that these distinctions are only provisionally stabilized:

- (1) While NIT at times tends to conflate the distinction between the technical and the economic, reflexive project management are (more) attentive to the significance of their boundaries and interdependence. First, project management’s distinction between technical and commercial area is a (provisional) outcome from the interaction with the technical devices. It is through the interaction with the drawings and the budget that project management can calculate the spatial distribution between technical and commercial area and problematize (hence the reflexivity) their spatial distribution from an economical point of view. The budget device enacts and affords this reflexive economic point of view. The normative and the technical is simultaneously intertwined as project management mobilize the budget (the technical device) and through the subsequent budgeting process arrives closer to a building-design norm concerning the relative distribution of technical and economic area, i.e. a design norm which in turn is a thoroughly mix between technical considerations and economic considerations.
- (2) By prompting project management to reconsider and alter the building’s design the budget also changed the role of project management, making it a hybrid of professional project management ‘virtues’ about having a realistic budget and thus ‘staying on budget’ *and* design. Design is, however, usually assumed to be the domain of autonomous professional architects (Thornton and Ocasio 1999, Scott 1994), but in this instance construction management negotiate such institutional boundaries and has both of these professional roles. The hybrid role as project manager-architect is emergent, co-produced

through interactions with the progressively elaborated budget and architectural drawings. The project manager-architect played an active role in shaping the emerging budget and architectural drawings; i.e. in making both calculations and (e)valuation. Again, this hybrid role not only involves negotiating quantities such as the size of the cost budget, it also involves negotiating project scope and design qualities, such as the absolute and relative size of the building's 'technical' and 'commercial' space, and by implication stakeholders' needs.

- (3) As noted, the economic logic and rationale of more commercial space is not just constrained by the cost budget – distinctions between the technical and economic are established and negotiated in relation to architectural design and logics due to the active role of the budget. There are, however, also further institutional boundaries and constraints negotiated in relation to logics. These will be addressed in more detail below.

Although architects, much in keeping with organizational and cultural research, have long made claims regarding the symbolic role and significance of skyscrapers, our findings show that important architectural norms such as “form follows function” - in our case of “living art”, is at best ambiguous, for example when project management negotiates for more functional space for living - a revised form follows a function, but does so through the mobilization of the budget. During this event, design area is shaped by the economic logic afforded by the budget. The question of architectural form, as the case suggests, can be resolved through multiple forms of devices, like the use of a progressively elaborated budgets. Thus the more crass economic truism “form follows finance” (Willis 1995) holds, but only provisionally and within some delimited spatial area as defined by the design concept, and after some endogenously and highly specific project conditions are established through the economic calculations (budgeting). It is during the moment of revising the project budget and up to the point when the revised 728 million SEK budget is established that we can see how financial considerations concerning cost and revenues progressively sets the conditions which prompted project management to negotiate for a redesigned and enlarged building. The professional architects followed by redrawing the building to allow for more “commercial space”. Further into the project and events, however, it also



appears that the hold of the budget and economic logic gives way to an emerging design logic “finance follows functional form”. The collective ambition to produce the Turning Torso and the materiality of the building itself resulted in numerous subsequent and unexpected redesigns (both exterior and interior), major delays and budget overrides as actors struggled to negotiate the basic function of a stable construction.

Our case thus reveals in subsequent steps the emergence of a somewhat unexpected and dynamic process of hybridization of norms in architecture and construction, resulting (provisionally) in “finance follows functional forms”. In architecture and construction the distinction between form and function is at best an ambiguous. The case depicts the associated controversies spurred by the construction of this building that is otherwise widely acclaimed and has received international awards for its innovative design. In this connection it should also be noted that due to the extensive time delays, major budget overruns and higher price, prospective apartment owners’ interest faded away. Instead, the housing association had to fund the project, and a new decision was made to rent out all the apartments. Tenants emerge unexpectedly as a new inhabitant identity. There are controversies associated with the budget overrides and the costs that it has incurred on the cooperative housing association as well as with social irresponsibility of a housing association for funding the construction of a building that does not provide affordable housing for ordinary citizens. It is not a case in which existing societal norms for what is acceptable or legitimate are reproduced. If this, indeed, had been the case, then there would have been no controversies. It seems that the design ambitions of the architect, the housing association and local municipal government are emergent and contingent on the heterogeneous associations established in the course of the construction process.

## **Discussion and conclusion**

What then, is the role of the project context? New institutional theory (NIT) emphasize the importance of the context since organizations are considered to be “deeply and essentially embedded in wider institutional environments” (Scott and Meyer et al. ,1994: 1). While NIT scholars at times conceptualize organizations are “direct reflections and effects” (Ibid. p.2) of the wider institutional context, we share concerns with those who propose to enrich this outside-

in/cause-effect model. As Friedland and Alford (1991) rightly point out, defining institutional boundaries “is difficult and potentially tautological” (p.244) for the (new) institutionalists. But while we agree with them that there is a need for a new institutional theory that can address the specific ways in which institutional boundaries are defined, redefined and (provisionally) stabilized, we think that the only, or main requirement for an enriched model is that the organizational researcher allows institutional boundaries to be (re)defined by the actors themselves. Our first step towards this end is simply to ask is if the turning torso project is just a direct reflection and effect of the wider institutional environment. Our case reveals more complex relations and roles for the wider institutional context, humans and the technical devices. Below, we will conclude the paper, by tying the more general issue and argument above, to the more specific issue concerning logics, their shifts and transformation, i.e. the possible point of convergence between NIT and ANT.

In our case, the architectural professionals and their designs do not stay in an autonomous role as prescribed by NIT. Rather, architectural professionals and design logics becomes linked up with a budget device and hybridized and folded together with an economic logic. The building design scales up (Yaneva 2005) and grows in size due to the active role of the budget. The resulting revised and more economical design (with increased commercial space) does make the design logic more hybrid and architectural professionals also quite hybrid as in the case of the hybrid editor-professional observed by Thornton and Ocasio (1999). Further, the budget and the more economical design it actively promotes can also be considered as similar to the authors’ findings of a dominant market logic. The only or main difference to NIT is that we do not find a process going from a hybrid to pure logic and state. We also find these more or less purified (or hybrid) professions and logics an intriguing puzzle in need of further explanation. Symmetrically and related to the puzzling hybrid architect professional is the management profession, in this case project management in construction, and how it takes on a more hybrid role as well, as a construction management-architect.

Such puzzling instances of role formation and hybridization, their mutual relations and distribution in time and space can be explained by paying closer attention to the technical devices. We claim to have shown that actors’ ambitions, logics and professional roles are not separate from the

architectural drawing and the budget but emerge and are transformed through their progressive elaboration and provisional stabilization (e.g. at the point of project appraisal and decision approval). But does this just mean that a design logic is replaced by an dominant economic logic, as in the historical shift/replacement accounted for by Thornton and Ocasio (1999)?

No, because our case clearly suggests that time can be reconfigured and history and events can come in different/non-linear paces. For example, the twisting torso sculpture remained “dormant” as part of a private art collection for more than a decade before it was circulated further with the help of a picture in a brochure. Forms matters, a picture of a sculpture in a brochure can circulate with more ease than the sculpture, the former helped in pacing the history and events that constitute project time. Progression of events does not mean a replacement/shift from one logic to another. The logics are not two separate entities and events over time, but are linked and simultaneously and mutually transformed through the progressive elaboration of the architectural drawing and the budget, i.e., the technical devices. Like other authors (du Gay & Pryke 2002) commenting on ‘epochal’ shifts over (exogenous) linear time, we find forms and matters that (endogenously) define and fold time. Time, although linear at the point of project approval (with an estimated 2 years completion time) is transformed as well. Rather than remaining linear, project time seems to be progressively transformed and folded as the project events (the stability issue noted above) redefines and thoroughly undermines linear calendar time estimates. When we say that the twisting torso assumed a crucial role in folding project time, design, economy and associated logics we do not point to a singular device – a singular sculpture that remained dormant for so and so many years in a private collection. Rather, it is due to its multiplicity, i.e., the progressive elaboration into sculptures, sketches, drawings, pictures and models, budgets and their subsequent circulation that the twisting torso could assume such an active role in transforming the wider institutional context, while simultaneously stabilizing itself as the building Turning Torso.

The city of Malmö is no longer the same, critics and supporters agree. The HSB association, both local and national, is no longer the same, again the critics and supporters agree. The (international) architecture profession is no longer pure and autonomous (assuming it was). The management profession is no longer confined to the bureaucratic role of control and

rationalization (assuming it was). The New York modern museum of art has shown it, its program and content is no longer that isomorphic homogeneous and constrained (assuming it was). The distinction between local and global, normative and technical, art, architecture and economy and associated institutions and logics are no longer maintained (assuming it was).

For the student of emerging institutions and logics, the case seems to carry a lesson about the performativity of devices. Not unlike the map performing the role as a calming device in Weick's (1987) account, the sculpture Twisting Torso performed the role as an *interessement* device (Callon, 1986, Akrich, Callon and Latour 2002). First, in the brochure held by the CEO, the Twisting Torso is transformed into a written narrative and a picture that makes the CEO into an interested reader. Also the board members became interested in the Twisting Torso and decided to explore it further as a possible prototype for a building. The Twisting Torso is no longer just a sculpture, but has turned into a *circulating reference* (Latour 1999) in a process of association. This is what is meant by the *production of a narrative* (Czarniawska 1998, p.20). Then the Twisting Torso resurfaced as a three-dimensional sculpture at an exhibition down town. The local press adds to the unfolding narrative. The Twisting Torso is thus several different things in our case, being simultaneously an object of art, a picture, a prototype, a written text, as architectural drawings, as means for further architectural design and exploration, i.e. the associations making up the unfolding narrative. "The Twisting Torso" is considered as a device active in folding time, space, ambitions and identities, whilst "The Turning Torso" in the course of its construction not only shaped design ambitions, it also – de facto – shaped important cultural understandings and practices concerning living standards, citizenship, professional roles and identity, i.e. the project's institutional context and logics.

This multiplicity of the object is also what makes it differ in an important way from the map in the example provided by Weick (1987): Explorations, as noted by March (1978, 1999), might transform goals and ambitions as well, and as further noted by Latour (2002), goals and ambitions are especially prone to unexpected transformations *when passing through technical objects*. The Twisting Torso came to participate in defining collective ambitions and logics. Simultaneously and progressively, largely undefined interests and ambitions become articulated and defined as 'Living arts'. Emerging global design ambitions for city renewal and regional identity should be considered

as an integral part of this unexpected outcome. When the process of transformation is taken further, as it turned out in this case, art can take on a new and unexpected role as well, i.e., to shape and mould the future in its image. By articulating and representing the future in the present, and by persuading others to act accordingly, the Twisting Torso can circulate further and become a *narrated folding machine*, not unlike what Weick (1987) term a 'self-fulfilling prophecy' (p.227). Yet, in addition to the notion of a self-fulfilling prophecy (Merton 1948), the notion of a narrated folding machine stresses the performativity of the devices (Callon, 2007). The devices perform work of singling out and intensify - not only coordinated actions towards a particular goal or ambition, but simultaneously and progressively they also participate in the transformation and subsequent articulation of ambitions, like the above mentioned global strategy for city renewal and the notion of living arts. Strong personal beliefs (Weick, 1987) might not be enough to explain such outcomes. Rather, strong beliefs, like a global ambition for city renewal can be, should be considered as part of what should be explained. For these reasons – due to this accomplishment, the Twisting-Torso-the-Turning-Torso offers a key that can unlock another puzzle in NIT, i.e., what constitutes and defines the institutional entrepreneur.

## References

Akrich, M., Callon, M., and Latour, B. (2002) The key to success in innovation part I: The art of interessement. *International Journal of Innovation Management*, Vol. 6, pp. 187-206.

Bekke Kjær, A. and Mouritsen, J. (2007) *Budget-variances and circulating accountability: Mobilising the budget in a construction project*. Paper presented at the International conference, Managing the Construction of Buildings 15-16 November 2007- Copenhagen Business School Center for Management of the Building Process, 1-28.

Calatrava, S. 2002 [1997]. *Conversations with Students. The MIT lecturers*. New York: Princeton Architectural Press. ([http://web.mit.edu/civenv/Calatrava/.](http://web.mit.edu/civenv/Calatrava/))

Callon, M. 1986. Some elements of a sociology of translation: domestication of the scallops and fishermen of St. Brieuc Bay. In J. Law, *Power, Action and Belief: a New Sociology of Knowledge?* (pp. 196-233). Routledge, London.

Callon, M. 2007. What does it mean to say that economics is performative? In: D. MacKenzie, F. Muniesa and L. Siu (Eds.) *Do Economists Make Markets? On the Performativity of Economics*, Princeton University Press, pp. 311-357.

Czarniawska, B. 1998. *A Narrative approach to Organization Studies*. Qualitative Research Methods Series, Volume 43. London: Sage Publications.

- Czarniawska, B. 2002. *A Tale of Three Cities or the Glocalization of City Management*. Oxford: Oxford Press.
- Czarniawska, B. and Hernes, T. (Eds.). 2005. *Actor-network theory and Organizing*. Malmö: Liber and Copenhagen Business School Press.
- Czarniawska, B. 2009. "Commentary: STS Meets MOS". *Organization*, 16(1): 155-160.
- DiMaggio, P. J. and Powell, W.W. 1991. 'Introduction.' In W.W. Powell and P. J. DiMaggio (eds.) *The New Institutionalism in Organizational Analysis*: 1-38. Chicago: University of Chicago Press.
- du Gay, P. and Pryke, M. 2002. Cultural economy: an introduction. In: Paul du Gay · Michael Pryke (Eds.) *Cultural Economy: Cultural Analysis and Commercial Life*. London: Sage Publications. 1-19.
- Friedland, R. and Alford, R.R. 1991. 'Bringing Society Back In: Symbols, Practices, and Institutional Contradictions.' In W. W. Powell and P. J. DiMaggio (eds.) *The New Institutionalism in Organizational Analysis*: 232-263. Chicago: University of Chicago Press.
- Gibson, J. G. 1986. *The Ecological Approach to Visual Perception*. London: Lawrence Erlbaum.
- Hardy, C. and Maguire, S. 2008. "Institutional Entrepreneurship" in R. Greenwood, C. Oliver, K. Sahlin-Andersson and R. Suddaby (eds.). *Handbook of Organizational Institutionalism*. London: Sage Publications.
- Hoffman, A. 2008. "Organizational Fields: Past, Present and Future" in R. Greenwood, C. Oliver, K. Sahlin-Andersson and R. Suddaby (eds.). *Handbook of Organizational Institutionalism*. London: Sage Publications.
- Holm, P. 2001. *The invisible revolution: The construction of institutional change in the fisheries*. Tromsø: University of Tromsø.
- Hernes, T. 2008. *Understanding Organization as Process: Theory for a Tangled World*. London: Routledge.
- Maguire, S., C. Hardy and T. Lawrence. 2004. "Institutional Entrepreneurship in Emerging Fields: HIV/AIDS Treatment Advocacy in Canada," *Academy of Management Journal* 75 (5): 1-23.
- Joerges, B. & B. Czarniawska. 1998. "The question of technology or how organizations inscribe the world". *Organization Studies*, 19(3): 363-385.
- Kiser, K. (Ed.) 2004. *Santiago Calatrava: The architect's Studio*. Kristianstad: Arvenius Förlag.
- Koolhaas, R. 1996. *S, M, L, XL*. Monacelli Press: New York (1996).
- Kreiner K. and Løth Frederiksen, M. (2007) *The Architecture of Success and Failure in Construction*. Paper presented at the International conference, Managing the Construction of Buildings 15-16

- November 2007- Copenhagen Business School Center for Management of the Building Process, 1-20.
- Latour, B. 1987. *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, Mass.: Harvard University Press.
- Latour, B. 1999. *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge, Mass.: Harvard University Press.
- Latour, B. 2002. "Morality and technology – the ends of means". *Theory, Culture & Society*, 19(5/6): 247-260.
- Levin, M. 2003. *Santiago Calatrava The Artworks: A laboratory of ideas, Forms and Structures*. Basel: Birkhäuser – Publishers for Architecture.
- March, J. G. (1978) 'Bounded rationality, ambiguity, and the engineering of choice', *Bell Journal of Economics* Vol. 9: 587-608.
- March, J. G. (1999). *The Pursuit of Organizational Intelligence*. Malden, Massachusetts: Blackwell.
- Merton, R. K. 1948. The self-fulfilling prophecy. *Antioch Review*, 8: 193–210.
- Meyer, J. W., J. Boli and G. M. Thomas. 1994. "Ontology and rationalization in the Western cultural account" in R.W. Scott and J. M. Meyer (eds.) *Institutional environments and organizations: Structural complexity and individualism*. London: Sage. pp. 9-27.
- Schein, E. 1992. *Organizational Culture and Leadership*, 2<sup>nd</sup> Ed. San Francisco, CA.: Jossey Bass.
- Scott, R.W. 1994. "Institutions and Organizations" in R.W. Scott and J. M. Meyer (eds.) *Institutional environments and organizations: Structural complexity and individualism*. London: Sage. pp. 55-80.
- Scott, R.W. and Meyer, J.W. 1994. *Institutional Environments and Organizations: Structural Complexity and Individualism*. Thousand Oaks: Sage.
- Serres, M. (1995) *Conversations on Science, Culture and Time*. Ann Arbor, MI: The University of Michigan Press.
- Suddaby, R. and R. Greenwood. 2005. "Rhetorical Strategies of Legitimacy," *Administrative Science Quarterly* 50:35-67.
- Thornton, P.H. and Ocasio, W. 1999. Institutional logics and the Historical Contingency of Power in Organizations: Executive Succession in the Higher Education Publishing Industry, 1958-1990. *American Journal of Sociology*, 105 (3): 801-43.
- Weick, K. 1987. Substitutes for strategy. In. David J. Teece (ed.) *The Competitive Challenge: Strategies for industrial innovation and Renewal*. New York: Harper & Row: 221-237.
- Willis, C. 1995. *Form Follows Finance: Skyscrapers and Skylines in New York and Chicago*. New York: Princeton Architectural Press.

Yaneva, A. 2005. "Scaling Up and Down: Extraction Trials in Architectural Design". *Social Studies of Science*. 35(6): 867-894.



<b>Table 1. Core elements</b>	<b>NIT</b>	<b>ANT</b>
<b>Strategic options</b>	Institutionally constrained	Progressively elaborated and provisionally stabilized
<b>Strategic ends and means</b>	-//-	-//-
<b>Interests</b>	-//-	-//-
<b>Preferences</b>	-//-	-//-
<b>(E)valuation</b>	-//-	-//-
<b>Cognition</b>	-//-	-//-
<b>Action</b>	-//-	-//-
<b>Actors</b>	-//-	-//-
<b>Individual</b>	-//-	-//-
<b>Organization</b>	-//-	-//-
<b>Innovation</b>	-//-	-//-
<b>Power</b>	-//-	-//-
<b>Technology</b>	-//-	-//-
<b>Reflexivity</b>	-//-	-//-
<b>Institutional constraints</b>	Product of human action	Like the above elements – a product (provisionally), of human- and nonhuman interaction, the latter including technical devices and intellectual technologies like social theory